Orthomolecular Nutrition

by

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Have you ever asked your doctor, *"Should I take any vitamins, do you think this would help my condition?"* The usual reply is, *"Just eat a balanced diet and you will be fine."* Were you satisfied with that answer? Putting aside for the moment the question of what is a 'balanced diet', what training and experience was that opinion based upon? Most medical schools spend very little time on the subject of nutrition, usually just a few hours in a 4,000 hour curriculum. I explain to my patients, *"If you have taken the time to read a single book on the subject of nutrition, you may have studied more nutrition than your medical doctor."*

While we should not fault the physician who does not pursue an interest in diet and nutrition, the advice given should be appropriate for the individual's training and experience. Instead of saying, *"Just eat a balanced diet,"* a more appropriate response might be, *"I don't have much experience in that area, let me refer you to someone who can better answer your question."* Patients appreciate the honesty, and respect the doctor's concern for their well being.

Every day we see news stories relating to diet and nutrition in print, radio, and television media. The public is clamoring for rational, logical advice on this subject, rather than, *"Just eat a balanced diet."* Of all primary care health care providers, the doctor of chiropractic has the most training in diet and nutrition.

Most people mistakenly assume that a 'balanced diet' will adequately provide for their nutritional needs. After performing hundreds of diet analyses, I cannot recall a single individual who met 100% of the RDA of all nutrients from food alone. If we do encounter the rare individual who eats sufficient high quality food to meet all of the RDA requirements, is this adequate for optimum health?

The Recommended Dietary Allowance (RDA) was first established in 1941 by the Food and Nutrition Board of the National Research Council (NRC). They set the RDA levels at the *minimum* amounts needed to prevent overt deficiency diseases, such as scurvy, pellagra, and beriberi. In practical terms, this means that if you take 60 mg of Vitamin C daily, you won't get scurvy and your teeth won't fall out. However, RDA amounts are *not* sufficient to prevent sub-clinical deficiencies and obtain optimum health. Many nutritionists feel that to prevent chronic degenerative disease, we need vitamins in far larger amounts, usually in amounts greater than can be obtained from food alone. It is interesting to note that the NRC recommends a daily allowance of 3,859 milligrams of vitamin C for a 154 pound monkey. Why does the NRC feel that a monkey needs 64 times more vitamin C than a human?

One means of assessing the levels needed for optimum health is to measure the quantity of nutrients obtained from eating a very high quality raw food diet. Linus Pauling looked at the nutritional content of 110 raw natural plant foods. He found that a raw food diet supplying 2500 kcal of energy supplies most vitamins at a level of about three times the RDA. This would suggest that for most vitamins, the RDA allowance is one-third the level needed for 'optimum health'. However, Dr. Pauling observed that the same 2500 kcal raw food diet supplies 2,300 mg of vitamin C, 38 times the RDA of 60 mg. Why is the 'optimum health' level of vitamin C so much greater than for other vitamins?

Vitamin C is an interesting substance, in that it is not a vitamin for most animals. If you have a pet, such as a dog or cat, they don't need any vitamin C in their food. The vitamin C molecule is chemically similar to glucose, blood sugar. For most animals, it is a simple task to convert glucose to vitamin C. However, all primates suffer from a genetic defect. We lack one of the enzymes needed for this conversion, so we must obtain vitamin C from our diet.

For animals that synthesize their own vitamin C, how much do they manufacture for their own needs? A dog, cat, sheep, goat, or cow makes vitamin C at a very high rate, about 10,000 mg per day for 150 pounds of body weight. This level is the *minimum* amount they make for health maintenance. However, when the animal is under stress, such as healing from an injury, recovering from a viral cold infection, or even psychological stress, that animal will double or triple the amount of vitamin C it creates. As Dr. Pauling says,

"It is hard to believe that these animals would make this large amount of ascorbic acid if it were not beneficial to them, and it is also hard to believe that humans are so much different from other animals that they can keep in the best of health with only two-hundredths of the amounts that animals use."

Linus Pauling coined the term 'Orthomolecular Medicine' in 1968 as, *"the preservation of good health and the treatment of disease by varying the concentrations in the human body of substances that are normally present in the body and are required for health."* Since vitamins and nutritional substances belong in the body, they are very safe. This is not the case with pharmaceuticals. Every drug has a recommended or therapeutic dose, and a toxic or lethal dose. The difference between the two values is the margin of safety for that drug. For example, aspirin is sometimes recommended at 30 tablets a day for rheumatoid arthritis, and yet a fatal dose for an adult may be as little as 60-90 tablets. This is a very narrow margin of safety.

By contrast, the margin of safety for most nutritional substances is enormous. Vitamin C is described in the medical literature as 'virtually nontoxic'. In animal studies, massive doses of vitamin C were given intravenously with no signs of toxicity. The quantity used amounts to 3/4 pound of vitamin C per day, if giving the corresponding amount to a human.

Given the safety of nutritional supplements, one wonders why doctors are so conservative in their use. Let me relate an interesting story. A few years ago a friend of mine, Dr. Skye Lininger, was having dinner with a cardiologist. The synopsis of their conversation went something like this:

Dr. Lininger: *"Did you read the article in the New England Journal of Medicine on vitamin E and heart attacks?"*

Cardiologist: *"I did."*

Dr. Lininger: *"Are you recommending that your patients take more vitamin E?"*

Cardiologist: *"Well, it's still a little premature, I would like to see the results of more study."*

Dr. Lininger (after recovering from his disbelief): *"In the entire history of medical literature, there is not a single case of someone dying from too much vitamin E. Since we know how dangerous heart attacks are, shouldn't we err on the side of giving someone too much vitamin E?"*

It is indeed puzzling why this bias persists. The argument often used against nutritional substances is, *"Your evidence of efficacy is anecdotal."* While we always want more and better research, for those who are willing to look, plenty of good research documenting the safety and efficacy of nutritional supplementation exists.

Hippocrates, the father of medicine taught, *"First, do no harm."* When safety is the issue, there is no contest between nutritional substances and pharmaceuticals. Unless your condition is a health crisis and life threatening, dietary and lifestyle changes and nutritional supplementation should be your first line of defense before resorting to pharmaceutical intervention.

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